

CLAIMS

What is claimed is:

1. A process of forming an organic layer comprising:
placing a first liquid composition over a first portion of a surface
5 of a substrate without a well structure connected to or adjacent the first
portion of the surface of the substrate, wherein i) the first portion of the
surface of the substrate has a first surface energy, ii) the first liquid
composition includes a first liquid medium and iii) the first liquid
composition has a second surface energy that is higher than the first
10 surface energy; and
evaporating the first liquid medium while the first liquid
composition overlies the first portion of the surface of the substrate.
2. The process of claim 1, further comprising providing a surfactant
over the first portion of the surface of the substrate before placing the first
15 liquid composition over the first portion of the surface of the substrate.
3. The process of claim 2, wherein the surfactant includes a
fluorine-containing material.
4. The process of claim 2, wherein providing the surfactant
includes exposing the first portion of the surface of the substrate to a
20 fluorine-containing fluid before placing the first liquid composition over the
first portion of the surface of the substrate.
5. The process of claim 1, wherein the first liquid composition
includes an organic active material.
6. The process of claim 5, wherein the organic active material
25 emits or responds to radiation.
7. The process of claim 5, wherein the organic active material
filters radiation.
8. The process of claim 5, wherein the organic active material is
part of a transistor.
- 30 9. The process of claim 1, wherein placing the first liquid
composition over the first portion of the surface of the substrate includes
using an ink-jet deposition technique.
10. The process of claim 1, further comprising
placing a second liquid composition over a second portion of
35 the surface of the substrate without the well structure connected to or
adjacent the second portion surface of the substrate, wherein i) the
second portion does not overlap the first portion, ii) the second portion of
the surface of the substrate has a third surface energy, iii) the second
liquid composition includes a second liquid medium, iv) the second liquid

composition has a fourth surface energy that is higher than the third surface energy; and

evaporating the second liquid medium while the second liquid composition overlies the second portion of the surface of the substrate,

5 wherein the first liquid composition includes a first organic active material and the second liquid composition includes a second organic active material that is substantially different from the first organic active material.

11. An organic electronic device comprising:

10 a substrate having a surface with a first portion and a second portion, without a well structure connected to or adjacent the first portion of the surface or the second portion of the surface, wherein the first portion of the surface has a first surface energy and the second portion of the surface has a second surface energy; and

15 a liquid composition covering the first portion of the surface and contacting the second portion of the surface, wherein the liquid composition has a third surface energy that is higher than the first surface energy and lower than the second surface energy.

12. The organic electronic device of claim 11, wherein the liquid composition includes an organic active material.

13. The organic electronic device of claim 11, wherein the second portion includes a charge transport layer.

14. The organic electronic device of claim 11, wherein the first portion includes an insulating layer and the second portion includes an electrode.

15. The organic electronic device of claim 11, wherein the first portion of the surface includes a surfactant.

16. The organic electronic device of claim 15 wherein the surfactant includes a fluorine containing material.

30 17. A transistor, comprising: an organic active layer on a portion of a surface of a substrate, without a well structure connected to or adjacent the portion of the surface of the substrate, wherein the organic active layer includes at least one feature selected from the group consisting of a concave surface and a cusp.

35 18. The transistor of claim 17, wherein the portion of the surface of the substrate includes a surfactant.

19. The transistor of claim 18 wherein the surfactant includes a fluorine containing material.

20. The transistor of claim 17, wherein the at least one feature includes a concave surface.

21. The transistor of claim 17, wherein the at least one feature includes a cusp.

5 22. The transistor of claim 17, wherein the transistor is a field-effect transistor and the organic active layer is at least part of a channel region of the field-effect transistor.

10 23. The transistor of claim 17, wherein the transistor is a bipolar transistor and the organic active layer is at least part of an active base region of the bipolar transistor.

24. The transistor of claim 17, wherein the organic active layer has a width less than 70 μm .

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